What is claimed is:

1. A composition useful for treatment of microbial organisms comprising

a targeting moiety and

an anti-microbial peptide moiety,

wherein the targeting moiety is coupled to the anti-microbial peptide moiety and recognizes a target microbial organism and wherein the composition has an anti-microbial effect on the target microbial organism.

2. The composition of claim 1, wherein the targeting moiety is a peptide.

3. The composition of claim 1, wherein the targeting moiety is a peptide having an amino acid sequence as shown in SEQ ID NO. 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, or 61.

4. The composition of claim 1, wherein the targeting moiety is a peptide having an amino acid sequence as shown in SEQ ID NO. 24, 25, 26, 27, 28, 29, 30, 31, 32, or 33 and wherein the target microbial organism is *Pseudomonas*.

5. The composition of claim 1, wherein the target microbial organism is *P. aeroginosa*.

6. The composition of claim 1, wherein the targeting moiety is a peptide having an amino acid sequence as shown in SEQ ID NO. 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51 and wherein the target microbial organism is *Staphylococcus*.

7. The composition of claim 6, wherein the target microbial organism is *S.*

aureus.

8. The composition of claim 1, wherein the targeting moiety is a peptide having an amino acid sequence as shown in SEQ ID NO. 52, 53, 54, 55, 56, 57, 58, 59, or 60 and wherein the target microbial organism is *E. coli.*

9. The composition of claim 8, wherein the target microbial organism is *E. coli* DH5α.

10. The composition of claim 1, wherein the targeting moiety is a peptide having an amino acid sequence as shown in SEQ ID NO. 61.

11. The composition of claim 10, wherein the target microbial organism is *Pseudomonas*.

12. The composition of claim 10, wherein the target microbial organism is *E coli.*

13. The composition of claim 10, wherein the targeting moiety is coupled to the C terminus of the anti-microbial peptide moiety.

14. The composition of claim 1, wherein the targeting moiety is a peptide having an amino acid sequence as shown in SEQ ID NO. 61 and the anti-microbial peptide moiety is novispirin G10 having an amino acid sequence as shown in SEQ ID NO. 16.

15. The composition of claim 14, wherein the targeting moiety is coupled to the C terminus of novispirin G10.

16. The composition of claim 14, wherein the targeting moiety and the anti-microbial peptide moiety are fused via a peptide linker to form a fusion peptide and wherein the fusion peptide comprises an amino acid as shown in SEQ ID NO. 70.

17. The composition of claim 16, wherein the fusion peptide comprises an amino acid as shown in SEQ ID NO. 71.

18. The composition of claim 2, wherein the targeting moiety is coupled to the anti-microbial peptide moiety via a peptide linker.

19. The composition of claim 1, wherein the anti-microbial peptide moiety comprises a peptide selected from the group consisting of alexomycin, andropin, apidaecin, bacteriocin, β-pleated sheet bacteriocin, bactenecin, buforin, cathelicidin, α-helical clavanin, cecropin, dodecapeptide, defensin, β-defensin, α-defensin, gaegurin, histatin, indolicidin, magainin, nisin, protegrin, ranalexin, and tachyplesin.

20. The composition of claim 1, wherein the anti-microbial peptide moiety comprises a peptide selected from the group consisting of histatin 5, dhvar1, protegrin PG-1, and novispirin G10.

21. The composition of claim 1, wherein the target microbial organism is selected from the group consisting of bacteria, ricketsia, fungi, yeasts, protozoa, and parasites.

22. The composition of claim 1, wherein the target microbial organism is a cariogenic organism.

23. The composition of claim 1, wherein the target microbial organism is *Streptococcus mutans*.

24. The composition of claim 1, wherein the target microbial organism is selected from the group consisting of *Escherichia coli, Shigella dysenteriae, Salmonella typhimurium,Streptococcus pneumoniae,Staphylococcus aureus*, and *Pseudomonas aeruginosa*.

25. The composition of claim 24, wherein the anti-microbial peptide moiety comprises a peptide selected from the group consisting of buforin, cecropin, indolicidin, and nisin.

26. The composition of claim 1, wherein the target microbial organism is selected from the group consisting of *Escherichia coli, Shigella dysenteriae, Salmonella typhimurium, Streptococcus pneumoniae, Staphylococcus aureus, Pseudomonas aeruginosa, Candida albicans, Cryptococcus neoformans, Candida krusei, and Helicobacter pylori.*

27. The composition of claim 26, wherein the anti-microbial peptide moiety comprises a peptide selected from the group consisting of magainin and renalexin.

28. A method of treating a target microbial organism infection comprising administering to a subject in need of such treatment an effective amount of the composition of claim 1.

29. The method of claim 28, wherein the target microbial organism infection is on a mucosal surface.

30. The method of claim 28, wherein the target microbial organism infection is on a surface containing biofilm.

31. The method of claim 29, wherein the mucosal surface is selected from the group consisting of mouth, vagina, gastrointestinal tract, and esophageal tract.

32. The method of claim 28, wherein the target microbial organism infection is a S. mutans infection in a mouth.

33. The method of claim 28, wherein the target microbial organism infection is a

Candida albicans infection in vagina.

34. The method of claim 28, wherein the target microbial organism infection is an infection in gastrointestinal tract selected from the group consisting of a *Helicobacter pylori* infection, *Campylobacter jerjuni* infection, *Vibrio cholerae* infection, salmonella infection, Shigella infection, and *Escherichia coli* infection.

35. The method of claim 28, wherein the target microbial organism infection is an oral infection selected from the group consisting of *porphyromonas gingivalis,* Actinomyces, Veillonella spirochetes, and gram-negative flora infection.

36. The method of claim 28, wherein the target microbial organism infection is an *Clostridium difficile* infection in gastrointestinal tract or esophageal tract.

37. A targeting peptide comprising an amino acid sequence selected from the group consisting of SEQ ID NO. 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, and 61.

38. A targeting peptide comprising an amino acid sequence selected from the group consisting of SEQ ID NO. 24, 25, 26, 27, 28, 29, 30, 31, 32, and 33, wherein the targeting peptide specifically binds to a microorganism of *Pseudomonas*.

39. The targeting peptide of claim 38, wherein the targeting peptide specifically binds to *P. aeruginosa*.

40. A targeting peptide comprising an amino acid sequence selected from the group consisting of SEQ ID NO. 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, and 51, wherein the targeting peptide specifically binds to a microorganism of *Staphylococcus*.

41. The targeting peptide of claim 40, wherein the targeting peptide specifically binds to *S. aureus*.

42. A targeting peptide comprising an amino acid sequence selected from the group consisting of SEQ ID NO. 52, 53, 54, 55, 56, 57, 58, 59, 60, and 61, wherein the targeting peptide specifically binds to a microorganism of *E. coli*.

43. The targeting peptide of claim 42, wherein the targeting peptide specifically binds to *E. coli* DH5α.

44. A targeting peptide comprising an amino acid sequence as shown in SEQ ID NO. 61.

45. The targeting peptide of claim 37 which is operably linked to a detectable moiety.

46. The targeting peptide of claim 37 which is operably linked to an anti-microbial agent.